REMARKS

Applicant notes with appreciation that dependent claim 5 has been recognized as reciting allowable subject matter. Applicant thanks the Examiner for allowing the applicant to have a telephone interview with the Examiner on February 20, 2008. Applicant respectfully requests reconsideration of the subject application in view of the amendments and remarks set forth herein.

1. Status of the Claims

Claims 1-11 have been rejected. Claim 5 is objected to, but is indicated as allowable if rewritten to include the limitations of the base claim(s).

Claim 1 is amended herein. No new matter is added by these amendments. After entry of the foregoing amendments, claims 1-11 are pending in this application.

2. Claim Amendments

Applicant has amended independent claim 1 to more clearly recite the subject matter of the presently claimed apparatus for regulating fluid flow through a spray nozzle. In particular, applicant has amended independent claim 1 to recite that applicant's apparatus includes, *inter alia*, (e) "**a primary lower layer** that substantially follows **a first circular flow path**," and (f) "at least one **secondary upper layer** that substantially follows **a second flow path** radially inwardly towards said central axis, wherein said **primary lower layer and said secondary upper layer** interact at their boundaries and **support each other in a non-destructive manner** from peripheral side wall to said outlet." Support for the proposed amendments to independent claim 1 is found throughout the specification as filed (see, *e.g.*, page 6, line 24 to page 7, line 16; page 8, lines 2-8 and lines 29-31; page 9, lines 1-8; FIGs. 4-6 and 10-12 and the associated text).

As amended, claims 1-11 are pending in the present application. Applicant respectfully submits that no new matter is introduced by way of the proposed claim amendments, and prompt entry thereof is respectfully requested.

3. Rejection Under 35 USC § 102(b)

The outstanding Office Action sets forth a rejection under 35 USC § 102(b) as follows:

Claims 1, 2, 6 and 11 are rejected under 35 USC § 102(b) as being anticipated by Forbert et al. (U.S. Patent No. 6,415,993) [hereinafter "Forbert"]. Applicant respectfully traverses the Section 102(b) rejection and reconsideration of the foregoing Section 102 rejection is respectfully requested.

According to the MPEP, "[t]o anticipate a claim, the reference must teach every element of the claim." (See, e.g., MPEP § 2130). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegall Bros. v. Union Oil Co. of California, 814 F.2d 628, 631; 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Applicant respectfully traverses the § 102 rejection based upon Forbert. Applicant respectfully submits that Forbert fails to anticipate the rejected claims because, at a minimum, Forbert does not describe "each and every element" thereof. Indeed, at a minimum, Forbert does not teach or suggest (i) "a primary lower layer that substantially follows a first circular flow path," and (ii) "at least one secondary upper layer that substantially follows a second flow path radially inwardly towards said central axis, wherein said primary lower layer and said secondary upper layer interact at their boundaries and **support each other in a non-destructive manner from peripheral side wall to said outlet**," as recited in independent claim 1. That is, claim 1 recites a primary lower layer and a secondary upper layer that "support each other in a non-destructive manner from peripheral side wall to said outlet" as the secondary upper layer "substantially follows a second flow path radially inwardly towards said central axis."

Applicant notes that Forbert fails to teach or suggest an apparatus that includes the noted features and functionalities. Rather, in contrast, Forbert teaches that a first component enters at a channel (inlet) 10 and flows with spin into a "mixing compartment" 4 traveling towards the nozzle, and that a second component is added via channel (inlet) 11 and "is very well mixed with the first component in particular due to the spin of the first component." (See Forbert at col. 6, lines 60-67).

As such, Forbert does not teach or suggest an apparatus that includes upper and lower layers that "**support each other in a non-destructive manner** from peripheral side wall to said outlet" as the secondary upper layer "substantially follows a second flow path radially inwardly towards said central axis," as recited in applicant's independent claim 1.

In distinct contrast, the device disclosed by Forbert has a second component that enters the "mixing compartment" 4, and when the second component enters the mixing compartment 4 it immediately spins and "is very well mixed with the first component in particular due to the spin of the first component." (See Forbert at col. 6, lines 60-67). Thus, the Forbert device does not function in the same way relative to the presently disclosed and claimed invention. As such, it is clear that in no way can the "mixing compartment" 4 of the device disclosed by Forbert generate primary and secondary layers that "support each other in a non-destructive manner" as recited in applicant's independent claim 1 and as shown at least in applicant's FIGs 4 and FIGs 12A to 12C of applicant's disclosed invention.

Applicant's presently disclosed and claimed invention includes a primary lower layer 16 (see, e.g., FIG. 4 and the associated text) in chamber 1 that is able to support the secondary upper layer 17 "**in a non-destructive manner**" from start (perimeter) to finish (outlet). In other words, applicant's presently disclosed and claimed invention of a primary lower layer and a secondary upper layer that support each other "in a non-destructive manner" means that as the upper and lower layers move through chamber 1 towards outlet 4, the upper and lower layers remain as distinct layers that support each other and interact only at their boundaries. The layers of applicant's presently disclosed and claimed invention are preserved as they move towards the center of chamber 1, and the layers then break down as they enter axial outlet 4.

In contrast, Forbert does not have a lower layer supporting an upper layer as they travel towards an outlet. To the contrary, Forbert teaches that the flows enter at "mixing compartment" 4 through separate channels 10, 11 and never support each other as distinct layers in a non-destructive manner. As disclosed in Forbert, the flow of the second component through channel 11 immediately spins and mixes with the spinning flow of the first component in a destructive manner ("the second component . . . is very well mixed with the first component in particular due to the spin of the first component."). (See Forbert at col. 6, lines 60-67). In Forbert, the flows of the first component and second component are never preserved as distinct layers due to their immediate mixing with each other.

Thus, Forbert fails to teach or suggest (i) "a primary lower layer that substantially follows a first circular flow path," and (ii) "at least one secondary upper layer that

substantially follows a second flow path radially inwardly towards said central axis, wherein said primary lower layer and said secondary upper layer interact at their boundaries and **support each other in a non-destructive manner from peripheral side wall to said outlet**," as recited by independent claim 1. For at least the foregoing reasons, Applicant respectfully submits that independent claim 1 patentably distinguishes over Forbert.

Claims 2, 6 and 11 are dependent, either directly or indirectly, upon claim 1 and thus are allowable for at least the reasons noted herein with respect to independent claim 1. Reconsideration and withdrawal of the outstanding Section 102(b) rejection based on Forbert is respectfully requested.

4. Rejection Under 35 USC § 103(a)

The outstanding Office Action also sets forth rejections under 35 USC §103(a) as follows:

Claims 3, 4, 7 and 9 are rejected under 35 USC §103(a) as being unpatentable over Forbert in view of Perera (U.S. Patent No. 5,197,517) [hereinafter "Perera"]; claim 8 is rejected under 35 USC §103(a) as being unpatentable over Davies (U.S. Patent No. 5,112,498) [hereinafter "Davies"] in view of Forbert and Perera as applied to claims 3, 4, 7 and 9 above, and further in view of Jacob (U.S. Patent No. 5,054,474) [hereinafter "Jacob"]; and claim 10 is rejected under 35 USC §103(a) as being unpatentable over Davies in view of Forbert and Perera as applied to claims 3, 4, 7 and 9 above, and further in view of Hunter (U.S. Patent No. 3,070,317) [hereinafter "Hunter"]. Applicant respectfully traverses the Section 103(a) rejections. Reconsideration of the foregoing Section 103 rejections is respectfully requested.

Regarding claims 3, 4, 7 and 9, the Examiner asserts that Forbert teaches all the limitations of the claims except for a disc engageable with a spray nozzle housing, which the Examiner asserts is disclosed by Perera. Applicant respectfully disagrees.

For at least the reasons noted herein with respect to independent claim 1, Forbert fails to teach or suggest (i) "a primary lower layer that substantially follows a first circular flow path," and (ii) "at least one secondary upper layer that substantially follows a second flow path radially inwardly towards said central axis, wherein said primary lower layer and

said secondary upper layer interact at their boundaries and **support each other in a non-destructive manner from peripheral side wall to said outlet**," as recited by applicant's independent claim 1. Claims 3, 4, 7 and 9 are dependent, either directly or indirectly, upon claim 1 and thus are allowable for at least the reasons noted herein with respect to independent claim 1. For at least the foregoing reasons, Applicant respectfully submits that claims 3, 4, 7 and 9 patentably distinguish over Forbert in view of Perera.

Regarding claim 8, the Examiner asserts that Forbert in view of Perera teaches all the limitations of the claim except for a shower head, which the Examiner asserts is disclosed by Jacob. Applicant respectfully disagrees.

For at least the reasons noted herein with respect to independent claim 1, Forbert fails to teach or suggest (i) "a primary lower layer that substantially follows a first circular flow path," and (ii) "at least one secondary upper layer that substantially follows a second flow path radially inwardly towards said central axis, wherein said primary lower layer and said secondary upper layer interact at their boundaries and **support each other in a non-destructive manner from peripheral side wall to said outlet**," as recited by applicant's independent claim 1. Claim 8 is dependent, either directly or indirectly, upon claim 1 and thus is allowable for at least the reasons noted herein with respect to independent claim 1. For at least the foregoing reasons, Applicant respectfully submits that claim 8 patentably distinguishes over Forbert in view of Davies, Perera and/or Jacob.

Regarding claim 10, the Examiner asserts that Forbert in view of Perera teaches all the limitations of the claim except for the disc with curved portion, which the Examiner asserts is disclosed by Hunter. Applicant respectfully disagrees.

For at least the reasons noted herein with respect to independent claim 1, Forbert fails to teach or suggest (i) "a primary lower layer that substantially follows a first circular flow path," and (ii) "at least one secondary upper layer that substantially follows a second flow path radially inwardly towards said central axis, wherein said primary lower layer and said secondary upper layer interact at their boundaries and **support each other in a non-destructive manner from peripheral side wall to said outlet**," as recited by applicant's independent claim 1. Claim 10 is dependent, either directly or indirectly, upon claim 1 and thus is allowable for at least the reasons noted herein with respect to independent claim 1.

For at least the foregoing reasons, Applicant respectfully submits that claim 10 patentably distinguishes over Forbert in view of Davies, Perera and/or Hunter.

5. Conclusion

Accordingly, for at least the stated reasons, it is respectfully submitted that the claim rejections under Section 102(b) and 103(a) should be reconsidered and withdrawn. Applicant respectfully submits that all claims are in condition for allowance. Early and favorable action is earnestly solicited. If the Examiner believes that a telephone conversation may be useful in advancing prosecution of this application, the Examiner is invited to contact applicant's attorney at the number set forth below.

Respectfully submitted,

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